

a format which is suitable for the A/I module 210 and outputs the converted signal, it is not limited thereto. For example, the converting module 274 may convert the signal, which has been input from one or more interface modules (for example, A/I module 210), into a format which is suitable for the application logic (for example, the reset logic 250 or the safety logic 260), and may output the converted signal.

[0068] Thus, the software module 270 of the present embodiment includes the converting module 274. The converting module 274 converts the signal, which has been output from the application logic (for example, the reset logic 250 or the safety logic 260), into a format which is suitable for an interface module (for example, the A/I module 210), and outputs the converted signal, and/or the converting module 274 converts the signal, which has been input from the interface module, into a format which is suitable for the application logic. Thereby, an improvement effect by a change of hardware can be achieved without changing application logic greatly.

[0069] As used herein, the following directional terms “front, back, above, downward, right, left, vertical, horizontal, below, transverse, row and column” as well as any other similar directional terms refer to those instructions of a device equipped with the present invention. Accordingly, these terms, as utilized to describe the present invention should be interpreted relative to a device equipped with the present invention.

[0070] The term “configured” is used to describe a component, unit or part of a device includes hardware and/or software that is constructed and/or programmed to carry out the desired function.

[0071] Moreover, terms that are expressed as “means-plus function” in the claims should include any structure that can be utilized to carry out the function of that part of the present invention.

[0072] The term “unit” is used to describe a component, unit or part of a hardware and/or software that is constructed and/or programmed to carry out the desired function. Typical examples of the hardware may include, but are not limited to, a device and a circuit.

[0073] While preferred embodiments of the present invention have been described and illustrated above, it should be understood that these are examples of the present invention and are not to be considered as limiting. Additions, omissions, substitutions, and other modifications can be made without departing from the scope of the present invention. Accordingly, the present invention is not to be considered as being limited by the foregoing description, and is only limited by the scope of the claims.

What is claimed is:

1. A control device comprising:

an interface module configured to supply electric power to a field device installed in a plant;
an application executor configured to output a reset signal for resetting the field device; and
a converter configured to convert the reset signal, which has been output from the application executor, into a format which is suitable for the interface module.

2. The control device according to claim 1,

wherein the interface module comprises:

a power source configured to supply electric power to the field device; and

a cutoff part configured to cut off the electric power supplied from the power source to the field device based on the reset signal converted by the converter.

3. The control device according to claim 1,

wherein the application executor is configured to execute reset logic which comprises a first virtual terminal for outputting the reset signal,

wherein the converter is configured to execute a software module, and

wherein the software module comprises:

a second virtual terminal into which the reset signal, which has been output from the first virtual terminal, is input; and

a converting module configured to convert the reset signal, which has been input into the second virtual terminal, into a format which is suitable for the interface module.

4. The control device according to claim 3,

wherein the interface module is configured to output a measurement value, which has been received from the field device, to the software module, and

wherein the software module comprises a third virtual terminal which is configured to output the measurement value output from the interface module.

5. The control device according to claim 4,

wherein the application executor is configured to execute safety logic,

wherein the safety logic comprises:

a fourth virtual terminal into which the measurement value, which has been output from the third virtual terminal, is input;

a first function block configured to generate a driving signal for driving an alarm device or a shutoff device installed in the plant; and

a fifth virtual terminal configured to output the driving signal generated by the first function block, and

wherein the software module comprises:

a sixth virtual terminal into which the driving signal, which has been output from the fifth virtual terminal, is input.

6. The control device according to claim 5,

wherein the safety logic is configured to transmit the measurement value, which has been input into the fourth virtual terminal, to an operation monitoring terminal connected to the control device through a network.

7. The control device according to claim 6,

wherein the reset logic further comprises a second function block which is configured to generate the reset signal if the reset logic has received reset instructions from the operation monitoring terminal.

8. The control device according to claim 5, further comprising:

a second interface module configured to transmit the driving signal to the alarm device or the shutoff device, wherein the software module is configured to output the driving signal, which has been input into the sixth virtual terminal, to the second interface module.

9. A control method comprising:

supplying, by an interface module, electric power to a field device installed in a plant;

outputting, by an application executor, a reset signal for resetting the field device; and